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Testing the "Sexually Abused-Abuser Hypothesis" in Adolescents: A Population-Based Study

Aebi, Marcel ; Landolt, Markus A ; Mueller-Pfeiffer, Christoph ; Schnyder, Ulrich ; Maier, Thomas ;
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Abstract A long-standing belief in the literature on sex offenders is that sexually victimized youths are at increased risk of becoming sex offenders themselves. The present study tested the link between past sexual abuse, either with or without contact, and sexually offending behavior in a representative sample of male and female adolescents while controlling for other types of abuse, mental health problems, substance use, and non-sexual violent behaviors. Self-reported data were collected from a nationally representative sample of 6,628 students attending 9th grade public school in Switzerland (3,434 males, 3,194 females, mean age = 15.50 years, $SD = 0.66$ years). Exposure to contact and

non-contact types of sexual abuse was assessed using the Child Sexual Abuse Questionnaire and sexually offending behavior by the presence of any of three behaviors indicating sexual coercion. Two-hundred-forty-five males (7.1 %) and 40 females (1.2 %) reported having sexually coerced another person. After controlling for non-sexual abuse, low parent education, urban versus rural living, mental health problems, substance use, and non-sexual violent behavior, male adolescents who were victims of contact sexual abuse and non-contact sexual abuse were significantly more likely to report coercive sexual behaviors. Females who experienced contact or non-contact sexual abuse were also found at increased risk of committing sexual coercion after controlling for covariates. The present findings demonstrate a strong relationship between past sexual abuse, with and without physical contact, and sexual-offending behavior in male and female adolescents. Reducing exposure to non-contact sexual abuse (like Internet-based sexual exploitation) should become a new area of sexual violence prevention in youths.

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Introduction

According to a recent meta-analysis worldwide prevalence rates for child sexual abuse (CSA) are 7.9 and 19.2 % among male and female adolescents in community and student samples (Pereda, Guilera, Forns, & Gomez-Benito, 2009). There is no consensus among researchers as to what defines CSA. Some only consider abuse that involves actual physical contact, whereas others use a broad range of sexual abusive behaviors with and without physical contact (Mohler-Kuo et al., 2014). Nowadays, sexual abuse can also be committed online via computers and other media devices. When considering non-contact sexual abuse (e.g., sexual

harassment via the internet) prevalence rates of CSA increase to 17.2 and 40.2 % for male and female youth, respectively (Mohler-Kuo et al., 2014). There is evidence from clinical and population-based studies that, relative to non-abused youths, those who have been sexually abused (most studies combine contact and non-contact sexual abuse) are at higher risk for both physical and mental health problems (e.g., Fergusson, Horwood, & Lynskey, 1996; Irish, Kobayashi, & Delahanty, 2010; Maniglio, 2009) but are also at increased risk for re-victimization (Bramsen, Lasgaard, Koss, Elklit, & Banner, 2012). One large population study examined outcomes of non-sexual abuse, non-contact sexual abuse, contact sexual abuse without penetration and contact sexual abuse with penetration in childhood. They found that more severe forms of sexual abuse were associated with more severe psychopathological and poorer socioeconomic outcomes in adulthood (Fergusson, McLeod, & Horwood, 2013).

A long-standing belief in the literature on sex offenders is that victims of child sexual abuse are also more likely to sexually coerce another person. The link between the experience of sexual victimization and subsequently committed sexual perpetration is also known as “the sexually abused abuser hypothesis” (Seto et al., 2010) or the “victim-to-victimizer cycle” (Glasser et al., 2001).

Evidence for the sexually abused abuser hypothesis comes mainly from forensic studies based on adult and adolescent sex and non-sex offender samples. Two large meta-analyses of adult and adolescent offenders, respectively, reported a 3.4 and 2.8 times higher prevalence rate of sexual abuse in sex offenders compared to non-sex offenders (Jespersen, Lalumiere, & Seto, 2009; Seto & Lalumiere, 2010). Additionally, sexual victimization in childhood was found to be associated with repeated sexual offending and sexual recidivism in male adolescents (Carpentier & Proulx, 2011; Dennison & Leclerc, 2011) but not in adults (Hanson & Morton-Bourgon, 2005).

As female children are more likely to have experienced sexual abuse and only a very small minority of sex offences are committed by females, sexual abuse seems less specifically related to sexual coercive behaviors in adolescent girls or females. Nevertheless, some studies also found high prevalence rates for sexual abuse histories and a longer duration of childhood sexual abuse in female sex offenders compared to non-sex offenders and male sex offenders, respectively (Christopher, Lutz-Zois, & Reinhardt, 2007; Van der Put, Van Vugt, Stams, & Hendriks, 2013). In sum, there is limited evidence for the sexually abused-abuser hypothesis in females.

Further studies analyzed sexual offending prospectively in child victims of sexual abuse (Ogloff et al., 2012; Widom & Ames, 1994). For example, Ogloff et al. found that sexually abused children were almost 8 times more likely to be charged for a sexual offense in later life compared to non-abused controls. Salter et al. (2003) found that sexual offending often occurs in the years following the occurrence of abuse.

One limitation of using clinical or criminal justice samples to study the association between sexual victimization and sexual perpetration is the lack of generalizability of the findings to the general population. In fact, only victims who reported sexual abuse to the authorities and only sex offenders who were charged or convicted of their sexual offences can be included in clinical or forensic studies. However, only a small proportion of child sexual abuse is presumed to be reported to the authorities and only a part of offenders is presumed to be arrested for their sexual abusive behaviors (Gilbert et al., 2009; Maier, Mohler-Kuo, Landolt, Schnyder, & Jud, 2013; Weinrott & Saylor, 1991). Furthermore, adolescent sexual offenders are more likely to be reported to the police if they also had a history of non-sexual violence (Knight & Prentky, 1993). Criminal characteristics are possibly overrepresented among participants from studies in clinical or criminal justice settings and may have influenced the findings. Therefore, further research in population samples is needed (Seto et al., 2010).

Few studies have tested the “sexually abused abuser hypothesis” in population-based samples. Three U.S. surveys of high-school students support the link between contact CSA and sexual aggression in adolescents (Borowsky, Hogan, & Ireland, 1997; Casey, Bednell, & Lindhorst, 2009; Lodico, Gruber, & DiClemente, 1996). Adolescents who reported having been sexually abused also were more likely to report sexual aggression against a friend or dating partner. After controlling for drug use, emotional problems and family/school variables, a history of CSA remained a significant predictor of sexual aggression, with higher odds ratios in boys ($OR = 2.36\text{--}2.71$) than in girls ($OR = 1.51\text{--}1.53$). More recently, Seto et al. (2010) found similar results in two male population samples of adolescents in Norway and Sweden: males with a history of CSA were more likely to report coercive sexual behaviors, even when controlling for non-coercive sexual behaviors (e.g., pornography use), substance use, and non-sexual violent behavior.

Although the results of some population studies do support the “sexually abused abuser hypothesis,” particularly for male youths, further studies are needed that take into account risk factors for sexual coercion, such as exposure to non-sexual abuse (Van der Put et al., 2013; Widom & Ames, 1994), mental health problems (Galli et al., 1999), substance use (Seto et al., 2010) and non-sexual violent offending behavior (Aebi, Vogt, Plattner, Steinhausen, & Bessler, 2012). Considering that the experience of sexual abuse is associated with a wide range of psychosocial outcomes (e.g., poor mental health, aggression, drug use) that by themselves also increase the risk for sexual coercion, the inclusion of additional risk factors becomes crucial for explaining a more specific relation of sexual abuse and sexual coercive behaviors.

Previous studies have focused mainly on contact sexual abuse in childhood or adolescence, but have not considered non-physical types of sexual abuse as possible predictors of sexual

coercion. Nowadays, adolescents are increasingly engaged in new media and Internet-based communication platforms; and with the rise of these new technologies, exposure to online forms of non-contact sexual abuse has increased (Boonman, Grudzinskas, & Aebi, 2014; Mohler-Kuo et al., 2014). To our best knowledge, no previous study tested the link between exposure to non-contact sexual abuse and sexual offending behaviors. Therefore, the present study aimed to test the “sexually abused abuser hypothesis” in a general population-based sample of adolescents. We hypothesized that past exposure to either contact or non-contact sexual abuse would be positively associated with sexual coercion in both male and female adolescents, even after controlling for other risk factors.

Among victims of CSA, a close relationship with the offender and the experience of severe forms of sexual abuse were found related to later committed sexual coercion (Burton, Miller, & Tai Shill, 2002; Christopher et al., 2007; Seto et al., 2010). We additionally examined whether multiple sexual abuse episodes, oral, vaginal or anal penetration, abuse before age 12, abuse by a stranger, or abuse by a family member predicted sexual coercion in those youths who report contact sexual abuse.

Method

Participants and Procedure

The present study was based on a nationally representative sample of 9th grade students attending public schools in Switzerland. In the spring of 2009, a sample of 10,000 pupils from 560 classes at 228 public schools was randomly drawn from the most updated list of the Swiss Federal Bureau of Statistics. The probability proportional to size (PPS) cluster sampling method was used to select classes and schools, accounting for school size. Sampling was stratified according to the seven regions and 26 cantons of Switzerland. Approval from 26 ethics committees and 26 departments of education had to be obtained. While 25 out of 26 ethics committees approved the study, four education departments did not grant permission, mainly because of other school surveys that were being done during the same period of time. This resulted in the loss of 28 schools encompassing 63 classes. In those cantons that approved the study, the principals of selected schools were invited by letter to participate in the survey. After being contacted, 23 schools (48 classes) refused to participate, leaving a final sample of 177 schools with 449 classes. Due to the absence of some students because of illness ($n = 537$) and students' individual refusals ($n = 63$), 6,841 students participated in the survey. Due to computer-related problems, 15 questionnaires subsequently were lost and 39 questionnaires excluded because of invalid data. A further 159 participants were excluded because of missing data on mental health problem scales ($n = 122$, see below) and/or sexual coercion ($n = 37$). Therefore, the final sample consisted of 6,628 participants (Total response rate 89.1 %; 3,434 male

youths, 3,194 female youths) with a mean age of 15.50 years ($SD = 0.66$ years). Of these youths, 4,931 adolescents (74.4 %) were of Swiss nationality.

From September 2009 to May 2010, data were anonymously collected using computer-assisted self-report questionnaires. Two trained assistants were present during data collection to ensure an atmosphere of privacy and provide technical support, if necessary. The assistants also were instructed to keep an eye on students, in order to detect signs of stress or discomfort. Following completion of the questionnaire, the students received an information sheet with a list of readily accessible institutions that provided help for victims of trauma. A more detailed description of study procedures is available in previous publications (Landolt, Schnyder, Maier, Schönbucher, & Mohler-Kuo, 2013; Mohler-Kuo et al., 2014).

All students who were included in the present study provided informed consent. Because all students were older than 14 years, according to Swiss law, parental consent was not required for participation in this anonymous school survey.

Measures

Sexual Coercion

Sexual coercion was assessed using three dichotomous questions that could be answered either “yes” or “no.” The questions were: (1) Have you ever forced someone else to undress himself/herself or to show himself/herself naked against his/her will? (2) Have you ever touched someone else's private parts against their will? (3) Have you ever urged someone else to do a sexual act, even though that person did not want to? If any of these three items was answered “yes,” sexual coercion was coded as present.

Child Sexual Abuse

Past exposure to sexual abuse with or without physical contact was assessed using the Child Sexual Abuse Questionnaire (Mohler-Kuo et al., 2014). This self-report instrument consists of 15 questions to assess various forms of CSA. Life-time CSA and CSA over the preceding 12 months can be assessed separately. The CASQ was newly developed for the present study by taking into consideration previous literature and instruments. The details of the CSAQ development has been published elsewhere (Mohler-Kuo et al., 2014). For the present study, life-time CSA was taken into account. In addition, we considered CSA before age 12 in the supplemental analyses. The first eight items of the CSAQ are related to sexual abuse without physical contact and include items like “have you been forced to show your private parts,” “have you been sexually harassed by another person (either verbally, or by internet chatting, telephone or text messages), or “has anyone taken pictures of your naked body against your will.” Another seven items are related to sexual abuse with physical contact and include items like “have you ever been touched in a sexual way against your will,”

“has anyone tried to penetrate you vaginally or anally with his finger or using any object,” and “has anyone tried to penetrate you vaginally or anally with his penis.” Exposure to sexual abuse with contact was coded as present if “yes” was reported for any of the seven related items. Sexual abuse without physical contact was coded in a similar way, but only for those participants who were not exposed to contact sexual abuse. Internal consistencies (Cronbach alphas) were 0.7 for contact sexual abuse and 0.6 for non-contact sexual abuse. As the events of contact and non-contact sexual abuse may not be closely related to each other, the internal consistencies of the corresponding CASQ scales were only moderate. Therefore, we did not use sum scores of the contact and non-contact sexual abuse in the present study. The agreement on the presence of sexual abuse between the CASQ (for both, contact and non-contact sexual abuse) and the sexual victimization score from the Juvenile Victimization Questionnaire (JVQ; see below) was found to be in a moderate range (Cohen’s kappa 0.41, $p < 0.001$). The CASQ includes more items of sexual abuse than the JVQ.

Physical Violence and Child Maltreatment

The Juvenile Victimization Questionnaire (JVQ, Hamby, Finkelhor, Ormrod, & Turner, 2005) was used to measure past exposure to physical violence and/or maltreatment. The JVQ asks about different forms of offense against youths covering five areas: (1) conventional crime, (2) child maltreatment, (3) peer victimization, (4) sexual victimization, and (5) indirect victimization. The instrument had already demonstrated adequate test–retest reliability and construct validity in a U.S. national sample of 10 to 18-year old youths (Finkelhor, Hamby, Ormrod, & Turner, 2005). For the present study, the physical assault composite score (ten items, e.g., assaults with or without a weapon, prejudicial attacks, date violence) and the child maltreatment score (five items, e.g., physical abuse, emotional abuse, neglect) were considered. Both were coded as present if “yes” was responded to any of the related questions.

Demographic Variables

Parental education was assessed using two separate items measuring paternal and maternal education on 5-point Likert scales ranging from 1 (no vocational training) to 5 (a university degree). Paternal and maternal scores were added together to create a single summation score. If one parent’s education level was unknown, the other parent’s score was doubled. If education level was reported for neither parent, the score was coded as “missing.” Low parental education was categorized as “low” if the parental education summation score had a value of two or three, and average to above-average otherwise. As the 627 (9.5 %) cases with missing values for parental education did not differ from those cases with average to above-average parental educa-

tion, with respect to sexual coercion (4.6 % vs. 4.0 %, $\chi^2 = 0.57$, $p = 0.45$), missing cases were included in further analyses. Living area was coded as “urban” if the participant was living in a community with more than 50,000 residents.

Mental Health

Mental health was assessed by means of the self-report version of the Strengths and Difficulties Questionnaire (SDQ). This measure of mental health problems in children ages 11–17 is comprised of 20 items relating to emotional symptoms, conduct problems, hyperactivity, and peer problems (Goodman, 1997). Reliability and validity of the instrument was found sufficient (Goodman, 2001). In the present analyses, scores falling within the clinical range defined in the manual were considered clinically relevant.

Violent Behavior/Substance Use

Participants were asked if they had ever committed a robbery or physically assaulted/attacked another person. If any of these questions was answered “yes,” violent behavior was coded as present. Frequency of alcohol consumption was reported on a 6-point Likert-type scale from “every day” to “less than once per month”; two or more times a week was chosen to indicate “regular alcohol use” (Seto et al., 2010). Participants also were asked if they had ever used cannabis or any “hard” drugs (e.g., cocaine, amphetamines, ecstasy, heroine, hallucinogens).

Statistical Analysis

Pearson χ^2 -tests were used to compare predictor and outcome variables between the two genders. Odds ratios (OR) were calculated to assess the association between past exposure to contact and non-contact sexual abuse, and engaging in any sexual coercion behavior, while controlling for other covariates. These analyses were stratified by gender. Hierarchical logistic regression analysis was performed, the first model entering exposure to non-sexual abuse/demographic variables as independent factors (controlling for other types of adversities associated with sexual abuse), the second entering mental health problems and violent behaviors/substance (controlling for other possible outcomes of sexually abusive experiences) use as binary independent variables, and the third model entering all the covariates, with reported coercive behaviors as dependent variable. Multicollinearity diagnostics were applied by analyzing variance inflation factors (VIF; Myers, 1990). None of the predictors/covariates showed multicollinearity. All analyses were performed using SPSS Version 21 for Windows, were two-tailed, and utilized a threshold for statistical significance of $p = 0.05$.

Results

Descriptive Findings

Frequencies for all outcomes, predictors and covariates, by gender, are shown in Table 1. In total, 245 (7.1 %) males and 40 (1.3 %) females reported to have sexually coerced another person, either forcing them to undress, touching the other person's private parts against their will, or urging them to perform some sexual act or acts. Notably, all coercive sexual behaviors were more frequently reported by males. Among these “sexual coercers,” 104 (42.4 %) males and 34 (85.0 %) females reported a personal history of sexual victimization. In the full sample, relative to females, males more often reported conduct problems, violent behaviors, regular alcohol consumption, and either cannabis or hard drug use. Conversely, females more often reported exposure to all types of abuse. Additionally, females also reported emotional problems more often than males. Out of 173 (5.0 %) male and 484 (15.2 %) female victims of contact sexual abuse, 41 (23.7 %) and 22 (4.5 %) reported having enacted coercive

sexual behaviors, respectively. Out of 416 (12.1 %) male and 780 (24.4 %) female victims of non-contact sexual abuse, 63 (15.1 %) and 12 (1.5 %) reported coercive sexual behaviors (data not shown in Table 1).

Prediction of Sexual Coercion in Male Youths

In univariate analyses, males who reported a history of personal non-contact or sexual contact abuse were more likely to report having engaged in coercive sexual behavior(s). In addition to past exposure to physical violence and childhood maltreatment, the presence of emotional problems, conduct problems, hyperactivity, and personal violent behavior and substance use were all positively associated with sexual coercion (Table 2). Furthermore, exposure to non-contact and contact sexual abuse was significantly associated with sexual coercion after controlling for all covariates. Childhood maltreatment, conduct problems, violent behavior, and hard drug use were significant predictors of sexual coercion in the final full model (Table 2, fifth column).

Table 1 Frequencies of outcome, predictor, and covariate variables in male and female youths

Variables	Male youths (<i>n</i> = 3,434) Frequencies (%)	Female youths (<i>n</i> = 3,194) Frequencies (%)	χ^2 -test	Total sample (<i>N</i> = 6628) Frequencies (%)
Sexual coercion				
Forced someone else to undress	71 (2.1 %)	17 (0.5 %)	29.78***	88 (1.3 %)
Touched private parts of someone else against his/her will	202 (5.9 %)	25 (0.8 %)	130.11***	227 (3.4 %)
Urged someone else to do sexual things	46 (1.3 %)	15 (0.5 %)	13.73***	61 (0.9 %)
Any committed sexual coercion	245 (7.1 %)	40 (1.3 %)	139.14***	285 (4.3 %)
Exposure to sexual abuse				
Exposure to sexual abuse with contact	173 (5.0 %)	484 (15.2 %)	189.62***	657 (9.9 %)
Exposure to sexual abuse without contact	416 (12.1 %)	780 (24.4 %)	169.48***	1,196 (18.0 %)
Exposure to nonsexual abuse				
Exposure to physical violence	2,259 (65.8 %)	1,859 (58.2 %)	40.42***	4,118 (62.1 %)
Exposure to child maltreatment	658 (19.2 %)	1,204 (37.7 %)	281.41***	1,862 (28.1 %)
Demographics				
Low parental education	853 (24.8 %)	806 (26.9 %)	3.76 n.s.	1,713 (25.8 %)
Urban versus rural living area	2,511 (73.1 %)	2,411 (75.5 %)	4.84*	4,922 (74.3 %)
Mental health problems				
Clinical range of SDQ Emotional problems	82 (2.4 %)	350 (11.0 %)	199.48***	432 (6.5 %)
Clinical range of SDQ Conduct problems	432 (12.6 %)	228 (7.1 %)	54.65***	660 (10.0 %)
Clinical range of SDQ Hyperactivity	274 (8.0 %)	269 (8.4 %)	0.43 n.s.	543 (8.2 %)
Clinical range of SDQ Peer problems	142 (4.1 %)	112 (3.5 %)	1.77 n.s.	254 (3.8 %)
Violent behavior/substance use				
Violent behavior (nonsexual)	1,853 (54.0 %)	806 (25.2 %)	568.40***	2,659 (40.1 %)
Alcohol (> 2 + times p. week)	542 (15.8 %)	249 (7.8 %)	100.46***	791 (11.9 %)
Ever used cannabis	944 (27.5 %)	552 (17.3 %)	98.66***	1,496 (22.6 %)
Ever used hard drugs	547 (15.9 %)	384 (12.0 %)	20.92***	931 (14.0 %)

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2 Predictors (covariates) of committed sexual coercion in male youths ($N = 3434$)

Variables	Univariate analyses OR (95 % CI)	Multivariate model ^a OR (95 % CI)	Multivariate model ^b OR (95 % CI)	Full model OR (95 % CI)
Exposure to sexual abuse				
Exposure to sexual abuse with contact	5.96 (4.04–8.79)	4.95 (3.31–7.39)	4.04 (2.67–6.12)	3.81 (2.49–5.82)
Exposure to sexual abuse without contact	3.42 (2.49–4.70)	2.98 (2.15–4.12)	2.48 (1.78–3.46)	2.43 (1.73–3.41)
Exposure to non-sexual abuse				
Exposure to physical violence	1.66 (1.23–2.34)	1.21 (0.88–1.66)	–	0.78 (0.55–1.09)
Exposure to child maltreatment	2.43 (1.84–3.20)	1.81 (1.34–2.43)	–	1.49 (1.09–2.03)
Demographics				
Low parental education	1.26 (0.94–1.67)	1.08 (0.80–1.45)	–	1.05 (0.77–1.43)
Urban versus rural community	1.23 (0.91–1.67)	1.21 (0.90–1.68)	–	1.20 (0.87–1.66)
Mental health problems				
Clinical range of SDQ Emotional problems	2.78 (1.54–5.02)	–	1.54 (0.78–3.05)	1.45 (0.73–2.87)
Clinical range of SDQ Conduct problems	3.91 (2.93–5.22)	–	1.97 (1.41–2.76)	1.91 (1.36–2.68)
Clinical range of SDQ Hyperactivity	2.30 (1.59–3.33)	–	1.36 (0.90–2.06)	1.34 (0.89–2.03)
Clinical range of SDQ Peer problems	0.88 (0.44–1.74)	–	0.70 (0.33–1.49)	0.68 (0.32–1.44)
Violent behavior/substance use				
Violent behavior (nonsexual)	4.25 (3.05–5.93)	–	2.83 (1.99–4.01)	2.90 (2.02–4.18)
Alcohol (>2+ times per week)	2.25 (1.68–3.02)	–	1.02 (0.72–1.43)	1.02 (0.72–1.44)
Ever used cannabis	2.43 (1.87–3.16)	–	1.35 (0.99–1.85)	1.36 (0.99–1.86)
Ever used hard drugs	3.14 (2.37–4.15)	–	1.78 (1.29–2.45)	1.79 (1.29–2.47)

CI 95 % confidence interval, OR odds ratios, CI that do not include 1.00 indicate a significant OR at $p < 0.05$; significant OR are in bold, ^a entering variables for non-sexual abuse and demographics, ^b entering variables for mental health problems and substance use/violent behavior

Prediction of Sexual Coercion in Female Youths

Univariate analysis revealed that females who reported personal victimization with either non-contact or sexual contact abuse were more likely to report engaging in coercive sexual behavior(s). The presence of child maltreatment also was associated with sexual coercion, as were all of the SDQ problem scales and violent behavior/substance use variables (Table 3, second column). After controlling for covariates, exposure to sexual contact abuse remained significantly associated with sexual coercion. Exposure to non-contact sexual abuse narrowly missed meeting the a priori level of statistical significance, while the presence of emotional problems, hyperactivity, violent behavior, regular alcohol use, and hard drug use remained positive predictors of sexual coercion (Table 3, fifth column). This could be due to a lack of statistical power because only 40 females (1.3 %) reported having committed sexual coercion. Therefore, we performed an additional logistic regression with a reduced number of predictor variables to increase the statistical power of the predictors by combining covariates (any maltreatment or physical abuse, any SDQ-problem scale in the clinical range, violent behavior, and any alcohol, cannabis or drug use). In this model (not shown in Table 3), past exposure to sexual abuse with contact

and past non-contact sexual abuse became statistically significant predictors of sexual coercion, with OR = 8.12 (95 % CI 3.08–21.40) and OR 3.16 (95 % CI 1.13–8.83), respectively.

Additional Analyses of Risk Factors in Youths Who Reported Sexual Abuse with Contact

Additional analyses in the subsample of victims of sexual abuse with contact revealed that the presence of sexual abuse perpetrated by a stranger was a significant risk factor for sexual coercion in male youths. Being a victim of multiple sexual abuse events and being a victim of oral, vaginal, or anal penetration were significant predictors of sexual coercion in female youths (Table 4).

Discussion

Consistent with previously published findings and our hypothesis, victims of CSA were more likely than non-victims to report personally engaging in coercive sexual behaviors against another person (Borowsky et al., 1997; Casey et al., 2009; Lodico et al., 1996; Seto et al., 2010). After controlling for other risk factors, the OR was almost four (3.8) for adolescent boys exposed to sexual

Table 3 Predictors (covariates) of committed sexual coercion in female youths ($N = 3194$)

Variables	Univariate analyses OR (95 % CI)	Multivariate model ^a OR (95 % CI)	Multivariate model ^b OR (95 % CI)	Full model OR (95 % CI)
Exposure to sexual abuse				
Exposure to sexual abuse with contact	15.27 (6.16–37.87)	11.96 (4.61–31.04)	5.99 (2.31–15.53)	5.91 (2.18–15.98)
Exposure to sexual abuse without contact	5.01 (1.87–13.40)	4.28 (1.56–11.75)	2.45 (0.87–6.88)	2.66 (0.92–7.66)
Exposure to non-sexual abuse				
Exposure to physical violence	1.91 (0.95–3.83)	0.96 (0.46–2.00)	–	0.49 (0.22–1.09)
Exposure to child maltreatment	3.49 (1.79–6.79)	1.91 (0.94–3.87)	–	1.35 (0.64–2.82)
Demographics				
Low parental education	1.47 (0.76–2.83)	1.26 (0.65–2.46)	–	1.30 (0.64–2.62)
Urban versus rural community	1.12 (0.53–2.36)	1.05 (0.49–2.23)	–	0.94 (0.42–2.11)
Mental health problems				
Clinical range of SDQ Emotional problems	3.15 (1.56–6.36)	–	2.68 (1.22–5.87)	2.77 (1.25–6.16)
Clinical range of SDQ Conduct problems	5.13 (2.53–10.42)	–	1.12 (0.48–2.61)	1.08 (0.46–2.54)
Clinical range of SDQ Hyperactivity	5.45 (2.78–10.69)	–	2.66 (1.25–5.66)	2.72 (1.27–5.84)
Clinical range of SDQ Peer problems	4.07 (1.56–10.60)	–	2.15 (0.70–6.62)	2.13 (0.68–6.69)
Violent behavior/substance use				
Violent behavior (nonsexual)	6.33 (3.25–12.33)	–	3.67 (1.78–7.56)	4.06 (1.92–8.59)
Alcohol (>2+ times per week)	6.69 (3.45–12.98)	–	2.45 (1.16–5.20)	2.71 (1.26–5.82)
Ever used cannabis	5.46 (2.92–10.23)	–	1.61 (0.77–3.40)	1.55 (0.73–3.28)
Ever used hard drugs	8.50 (4.53–15.96)	–	3.08 (1.51–6.29)	3.33 (1.61–6.87)

CI 95 % confidence interval, OR odds ratios; CI that do not include 1.00 indicate a significant OR at $p < 0.05$; significant OR are in bold, ^a entering variables for non-sexual abuse and demographics, ^b entering variables for mental health problems and substance use/violent behavior

Table 4 Predictors (covariates) of sexual coercion in a subsample of male and female youths reporting exposure to sexual abuse with contact

Variables	(Male youths $n = 173$) OR (95 % CI)	(Female youths $n = 484$) OR (95 % CI)
Multiple episodes of sexual abuse	1.27 (0.60–2.68)	3.62 (1.21–10.87)
Oral, vaginal or anal penetration	2.42 (0.92–6.42)	2.95 (1.20–7.28)
First sexual abuse before 12 years	1.38 (0.60–3.18)	1.25 (0.45–3.48)
Perpetrator was a stranger	2.59 (1.18–5.72)	1.00 (0.29–3.47)
Perpetrator was a family member	1.08 (0.11–10.62)	n/c

CI 95 % confidence interval, OR odds ratios; CI that do not include 1.00 indicate a significant OR at $p < 0.05$; significant OR are in bold; n/c not calculable

contact abuse, while an OR of 2.4 was identified for boys exposed to non-contact sexual abuse. Corresponding numbers for adolescent girls were 5.9 and 2.7. These findings mirror those of a previous study of Norwegian and Swedish male adolescents that found sexually abused boys to be approximately three times more likely to exhibit coercive sexual behaviors (Seto et al., 2010). However, previous studies were limited to sexual violence in partnerships (Casey et al., 2009) and/or primarily focused on male youths (Seto et al., 2010). By the inclusion of a female sample and by considering non-contact sexual abuse as an additional predictor, the current study adds to our understanding of sexual coercion committed by juveniles.

Exposure to Sexual Abuse and Sexual Coercion

The current findings were in line with previous studies based on male adult and adolescent offender samples (Burton, 2003; Jespersen et al., 2009; Seto & Lalumiere, 2010) and support the existence of a unique pathway from sexual maltreatment to sexual coercive behaviors in youths. Other forms of maltreatment that often co-occur with sexual abuse (Edwards, Holden, Felitti, & Anda, 2003) and other frequently reported outcomes of sexual abuse (Maniglio, 2009; McGrath, Nilsen, & Kerley, 2011) do not explain the link between sexual victimization and reported sexual coercive behaviors.

In the present study the experience of sexual abuse was found equally important as a risk factor for sexual coercive behaviors in female as well as in male adolescents. This finding expands previous research based on female offender samples which found mixed results regarding the experience of sexual victimization as a risk factor for sexually coercive behaviors (e.g., Christopher et al., 2007; Glasser et al., 2001). Given the high percentage of sexual abuse among females who reported sexual coercion in the present study, the understanding of how sexual abuse affected sexual aggression should become a major issue in future research of female sex offenders.

Cognitive and emotional processes play a role in victims becoming sexual perpetrators: According to social learning theory, victims may “learn” inadequate sexual behaviors from their perpetrators and reproduce these behaviors against other children or adolescents (Bandura, 1978). Previous studies support the existence of social learning processes in sexually victimized male juvenile sex offenders (Burton, 2003). Offence characteristics of experienced sexual abuse were found to mirror characteristics of sexual offending behaviors regarding victim’s gender, committed sexual acts, and used *modus operandi*. Furthermore, the presence of shame has been linked to anger arousal, irritability, and aggression (Tangney, Wagner, Fletcher, & Gramzow, 1992). Some highly ashamed victims of sexual abuse may not be able to express these feelings adequately and convert their shame to anger. Adolescents who converted shame (i.e., little expressed sense of shame, high tendency to blaming others) were found to demonstrate more violent delinquent behavior than peers who expressed their sense of shame (Gold, Sullivan, & Lewis, 2011). Additionally, a sexually traumatized offender may feel empowered when sexually coercing another person. Such forms of appetitive aggression have been found to decrease vulnerability to post-traumatic stress symptoms in former victims of trauma (e.g., Weierstall et al., 2013). Despite the strong link between exposure to sexual abuse and sexual coercion, it is worth mentioning that the majority of self-reported sexual coercers (particularly males) did not report any personal experiences with sexual abuse. Hence, other etiological factors, like innate hostilities or deviant sexual arousal, may become relevant in explaining sexual aggression in non-abused offenders (Hunter & Becker, 1994).

Sex Specific Risk Factors for Sexual Coercion

Having been maltreated, having a conduct disorder, having shown violent non-sexual behaviors, and using either alcohol or illicit drugs also were found to be related to sexual coercion. Behavioral and emotional difficulties, as well as substance use, have frequently been described in victims of maltreatment and CSA (Maniglio, 2009). In some of these adolescents, the committed sex-coercing behavior most likely represents part of a more comprehensive pattern of antisocial behaviors (Aebi et al., 2012). Disinhibitory effects of alcohol and drug use also may

lower thresholds for criminal behaviors, including sexual violence (Martin, 2001).

Although we found common risk factors to be of relevance, the threshold to commit sexual offenses appeared to be much higher for girls than for boys. Remarkably in our study, hyperactivity and emotional problems were predictive of sexual coercion in girls, but not in boys. Delinquent girls had more and a broader spectrum of psychiatric disorders and comorbidities than delinquent boys (e.g., Plattner et al., 2007). The present findings support the assumption that a very small group of sexually abused girls with severe psychiatric problems—such as reduced impulse control and depressed mood—are at increased risk of coercive sexual behaviors.

Sexual Non-contact Abuse and Sexual Coercion

Previous studies on CSA have primarily focused on victimization via sexual contact, with the perpetrator an adult and the victim younger than 18 years; but they generally have not considered non-contact forms of sexual abuse (Freyd et al., 2005; Seto et al., 2010). The CASQ (Mohler-Kuo et al., 2014) includes types of sexual abuse related to the Internet and new media (e.g., online sexual harassment) but is not limited to these forms of non-contact abuse. With the development of new media technology, the use of the internet and smart phones is currently very prevalent among adolescents. In Switzerland, where the current study took place, 95 % of youths have a mobile phone and 97 % their own Internet access (Willemse, Waller, Süss, Genner, & Huber, 2012). Chatting about sexual topics and exchanging pornographic pictures have become readily feasible via social media platforms. These technologies facilitate new forms of sexual offense (Short, Black, Smith, Wetterneck, & Wells, 2012). There is some evidence that juveniles’ sexual attitudes and behaviors may be influenced to a higher degree by Internet content than by other sources (Lo & Wei, 2005). In 10–15-year old children, besides exposure to Internet pornography, the potential for sexual harassment via the Internet and text messaging was found to be related to current and later aggressive sexual behavior (Ybarra, Mitchell, Hamburger, Diener-West, & Leaf, 2011). Our findings support the importance of non-contact sexual victimization as an additional risk factor for coercive sexual behaviors in adolescents.

Further Risk Factors in Victims of Contact Abuse

Of those adolescents who reported sexual abuse with contact, only a minority reported engaging in sexual coercion themselves. Male adolescents whose abuse was perpetrated by a stranger were at higher risk of engaging in coercive sexual behaviors. In contrast, in a previous study among Norwegian and Swedish adolescents, boys who were sexually abused by a stranger were less likely to report sexual aggression (Seto et al., 2010). In addition, a study of adolescent offenders found boys

who had been sexually abused over several years, boys who were penetrated and boys who were related to the offender at higher risk to be in the sex offender than in the non-sex offender group (Burton et al., 2002). These disparate findings may be explained by different ways of measuring experiences of sexual abuse and different sample characteristics. For example, in the current study, a broader spectrum of abuses was assessed than in the study reported by Seto et al. (2010).

We found female adolescents who reported multiple victimizations and the experience of oral, anal, or vaginal penetration to be at increased risk of themselves engaging in coercive sexual behaviors. This finding supports an additive model, in which the frequency and severity of experienced victimization influences the probability of sexual coercion.

Study Strengths and Limitations

The present study is based on an anonymous survey of a large, nationally representative sample of youths attending schools within a well-developed, high-income country. The large number of participants allowed for extensive multivariate testing of multiple risk factors with sufficient statistical power. However, our survey was cross-sectional, so that causal relationships between life-time CSA and subsequent sexual coercion cannot be established. In fact, we cannot rule out the possibility that some adolescents may have engaged in coercive sexual behaviors before being sexually victimized. Furthermore, the present findings are based solely upon anonymous self-reports and are subject to possible recall bias and potential confounding related to the relative willingness of participants to report CSA and coercive behaviors; for example, could our adolescent girls have been more or less willing than their male counterparts to report such activities? In addition, sexual behaviors—like the viewing of pornography, age of first intercourse, and number of sexual partners—were not assessed in the present survey and, therefore, were not considered as covariates. Finally, the present findings may not be generalizable to adolescents at high risk for sexual abuse, as antisocial and sexually deviant youths were probably under-reported in this school sample.

Conclusions

The present findings highlight the extreme importance of CSA prevention in children and adolescents, given that victims themselves may become perpetrators, maintaining an endless cycle. Consequently, a comprehensive assessment of several risk factors in children and adolescents seems necessary to estimate the potential for future or ongoing sexual coercion. It should be taken into account that the use of modern media technologies is a dominant and influential activity in youths. Clinicians may use instruments that also target online sexual experiences and victimization in youths (Boonman et al., 2014). Specific interventions targeting children with victimization experiences and/or deviant sexual

behaviors might ultimately improve mental health and reduce sexual aggression among adolescents, both short-term and well into adulthood (Gibson & Leitenberg, 2000).

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Conflict of interests All authors declare that they have no conflicts of interest regarding this manuscript.

References

- Aebi, M., Vogt, G., Plattner, B., Steinhausen, H. C., & Bessler, C. (2012). Offender types and criminality dimensions in male juveniles convicted of sexual offenses. *Sexual Abuse: A Journal of Research and Treatment*, 24(3), 265–288. doi:10.1177/1079063211420449.
- Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication*, 28(3), 12–29.
- Boonman, C., Grudzinskas, A. J., & Aebi, M. (2014). Juveniles, the Internet, and sexual offending. In F. M. Saleh, A. J. Grudzinskas, & A. Judge (Eds.), *Adolescent sexual behavior in the digital age. Considerations for clinicians, legal professionals and educators* (pp. 161–179). Oxford, UK: Oxford University Press.
- Borowsky, I. W., Hogan, M., & Ireland, M. (1997). Adolescent sexual aggression: Risk and protective factors. *Pediatrics*, 100(6), E7. doi:10.1542/peds.100.6.e7.
- Bramsen, R. H., Lasgaard, M., Koss, M. P., Elklit, A., & Banner, J. (2012). Adolescent sexual victimization: A prospective study on risk factors for first time sexual assault. *European Child and Adolescent Psychiatry*, 21(9), 521–526. doi:10.1007/s00787-012-0290-9.
- Burton, D. L. (2003). Male adolescents: Sexual victimization and subsequent sexual abuse. *Child and Adolescent Social Work Journal*, 20(4), 277–295. doi:10.1023/A:1024556909087.
- Burton, D. L., Miller, D. L., & Tai Shill, C. (2002). A social learning theory comparison of the sexual victimization of adolescent sexual offenders and nonsexual offending male delinquents. *Child Abuse and Neglect*, 26, 893–907. doi:10.1016/S0145-2134(02)00360-5.
- Carpentier, J., & Proulx, J. (2011). Correlates of recidivism among adolescents who have sexually offended. *Sexual Abuse: A Journal of Research and Treatment*, 23(4), 434–455. doi:10.1177/1079063211409950.
- Casey, E. A., Bednell, B., & Lindhorst, T. P. (2009). Predictors of sexually coercive behavior in a nationally representative sample of adolescents. *Journal of Interpersonal Violence*, 24(7), 1129–1147. doi:10.1177/0886260508322198.
- Christopher, K., Lutz-Zois, C. J., & Reinhardt, A. R. (2007). Female sexual-offenders: Personality pathology as a mediator of the relationship between childhood sexual abuse history and sexual abuse perpetration against others. *Child Abuse and Neglect*, 31(8), 871–883. doi:10.1016/j.chiabu.2007.02.006.
- Dennison, S., & Leclerc, B. (2011). Developmental factors in adolescent child sexual offenders: A comparison of nonrepeat and repeat sexual offenders. *Criminal Justice and Behavior*, 38, 1089–1102. doi:10.1177/0093854811417076.
- Edwards, V. J., Holden, G. W., Felitti, V. J., & Anda, R. F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the adverse childhood

- experiences study. *American Journal of Psychiatry*, 160(8), 1453–1460. doi:10.1176/appi.ajp.160.8.1453.
- Fergusson, D. M., Horwood, L. J., & Lynskey, M. T. (1996). Childhood sexual abuse and psychiatric disorder in young adulthood: II. Psychiatric outcomes of childhood sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35(10), 1365–1374. doi:10.1097/00004583-199610000-00024.
- Fergusson, D. M., McLeod, G. F., & Horwood, L. J. (2013). Childhood sexual abuse and adult developmental outcomes: Findings from a 30-year longitudinal study in New Zealand. *Child Abuse and Neglect*, 37(9), 664–674. doi:10.1016/j.chiabu.2013.03.013.
- Finkelhor, D., Hamby, S. L., Ormrod, R., & Turner, H. (2005). The Juvenile Victimization Questionnaire: Reliability, validity, and national norms. *Child Abuse and Neglect*, 29(4), 383–412. doi:10.1016/j.chiabu.2004.11.001.
- Freyd, J. J., Putnam, F. W., Lyon, T. D., Becker-Blease, K. A., Cheit, R. E., Siegel, N. B., & Pezdek, K. (2005). Psychology: The science of child sexual abuse. *Science*, 308(5721), 501. doi:10.1126/science.1108066.
- Galli, V., McElroy, S. L., Soutullo, C. A., Kizer, D., Raute, N., Keck, P. E., Jr., & McConville, B. J. (1999). The psychiatric diagnoses of twenty-two adolescents who have sexually molested other children. *Comprehensive Psychiatry*, 40(2), 85–88. doi:10.1016/S0010-440X(99)90110-4.
- Gibson, L. E., & Leitenberg, H. (2000). Child sexual abuse prevention programs: Do they decrease the occurrence of child sexual abuse? *Child Abuse and Neglect*, 24(9), 1115–1125. doi:10.1016/S0145-2134(00)00179-4.
- Gilbert, R., Kemp, A., Thornburn, J., Sidebotham, P., Radford, L., Glaser, D., & Macmillan, H. L. (2009). Recognising and responding to child maltreatment. *Lancet*, 373(9658), 167–180. doi:10.1016/S0140-6736(08)61707-9.
- Glasser, M., Kolvin, I., Campbell, D., Glasser, A., Leitch, I., & Farrelly, S. (2001). Cycle of child sexual abuse: Links between being a victim and becoming a perpetrator. *British Journal of Psychiatry*, 179, 482–494. doi:10.1192/bjp.179.6.482.
- Gold, J., Sullivan, M. W., & Lewis, M. (2011). The relation between abuse and violent delinquency: The conversion of shame to blame in juvenile offenders. *Child Abuse and Neglect*, 35(7), 459–467. doi:10.1016/j.chiabu.2011.02.007.
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38(5), 581–586. doi:10.1111/j.1469-7610.1997.tb01545.x.
- Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(11), 1337–1345. doi:10.1097/00004583-200111000-00015.
- Hamby, S., Finkelhor, D., Ormrod, R., & Turner, H. (2005). *The Juvenile Victimization Questionnaire (JVQ): Administration and scoring manual*. Durham, NH: Crimes Against Children Research Center.
- Hanson, R. K., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology*, 73(6), 1154–1163. doi:10.1037/0022-006X.73.6.1154.
- Hunter, J. A., & Becker, J. V. (1994). The role of deviant sexual arousal in juvenile sexual offending. *Criminal Justice and Behavior*, 21(1), 132–149. doi:10.1177/0093854894021001009.
- Irish, L., Kobayashi, I., & Delahanty, D. L. (2010). Long-term physical health consequences of childhood sexual abuse: A meta-analytic review. *Journal of Pediatric Psychology*, 35(5), 450–461. doi:10.1093/jpepsy/jsp118.
- Jespersen, A. F., Lalumière, M. L., & Seto, M. C. (2009). Sexual abuse history among adult sex offenders and non-sex offenders: A meta-analysis. *Child Abuse and Neglect*, 33(3), 179–192. doi:10.1016/j.chiabu.2008.07.004.
- Knight, R. A., & Prentky, R. A. (1993). Exploring characteristics for classifying juvenile sex offenders. In H. E. Barbaree, W. L. Marshall, & S. M. Hudson (Eds.), *The juvenile sex offender* (pp. 45–83). New York, NY: Guilford.
- Landolt, M. A., Schnyder, U., Maier, T., Schönbucher, V., & Mohler-Kuo, M. (2013). Trauma exposure and posttraumatic stress disorder in adolescents: A national survey in Switzerland. *Journal of Traumatic Stress*, 26(2), 209–216. doi:10.1002/jts.21794.
- Lo, V., & Wei, R. (2005). Exposure to internet pornography and Taiwanese adolescents' sexual attitudes and behavior. *Journal of Broadcasting and Electronic Media*, 49, 221–237. doi:10.1207/s15506878jobem4902_5.
- Lodico, M. A., Gruber, E., & DiClemente, R. J. (1996). Childhood sexual abuse and coercive sex among school-based adolescents in a midwestern state. *Journal of Adolescent Health*, 18(3), 211–217. doi:10.1016/1054-139X(95)00167-Q.
- Maier, T., Mohler-Kuo, M., Landolt, M. A., Schnyder, U., & Jud, A. (2013). The tip of the iceberg. Incidence of disclosed cases of child sexual abuse in Switzerland: Results from a nationwide agency survey. *International Journal of Public Health*, 58(6), 875–883. doi:10.1007/s00038-013-0498-6.
- Maniglio, R. (2009). The impact of child sexual abuse on health: A systematic review of reviews. *Clinical Psychology Review*, 29(7), 647–657. doi:10.1016/j.cpr.2009.08.003.
- Martin, S. E. (2001). The links between alcohol, crime and the criminal justice system: Explanations, evidence and interventions. *American Journal on Addictions*, 10(2), 136–158. doi:10.1080/105504901750227796.
- McGrath, S. A., Nilsen, A. A., & Kerley, K. R. (2011). Sexual victimization in childhood and the propensity for juvenile delinquency and adult criminal behavior: A systematic review. *Aggression and Violent Behavior*, 16, 485–492. doi:10.1016/j.avb.2011.03.008.
- Mohler-Kuo, M., Landolt, M. A., Maier, T., Meidert, U., Schönbucher, V., & Schnyder, U. (2014). Child sexual abuse revisited: A population-based cross-sectional study among Swiss adolescents. *Journal of Adolescent Health*, 54(3), 304–311. doi:10.1016/j.jadohealth.2013.08.020.
- Myers, R. (1990). *Classical and modern regression with applications* (2nd ed.). Boston MA: Duxbury.
- Ogloff, J. R. P., Cutajar, M. C., Mann, E., Mullen, P. E., Wei, F. T. Y., Hassan, H. A. B., & Yih, T. H. (2012). Child sexual abuse and subsequent offending and victimisation: A 45 year follow-up study. *Trends and Issues in Crime and Criminal Justice*, 440, 1–6.
- Pereda, N., Guilera, G., Forns, M., & Gomez-Benito, J. (2009). The prevalence of child sexual abuse in community and student samples: A meta-analysis. *Clinical Psychology Review*, 29(4), 328–338. doi:10.1016/j.cpr.2009.02.007.
- Plattner, B., Kraemer, H. C., Williams, R. P., Bauer, S. M., Kindler, J., Feucht, M., & Steiner, H. (2007). Suicidality, psychopathology, and gender in incarcerated adolescents in Austria. *Journal of Clinical Psychiatry*, 68(10), 1593–1600. doi:10.4088/JCP.v68n1019.
- Salter, D., McMillan, D., Richards, M., Talbot, T., Hodges, J., Bentovim, A., & Skuse, D. (2003). Development of sexually abusive behaviour in sexually victimised males: A longitudinal study. *Lancet*, 361(9356), 471–476. doi:10.1016/S0140-6736(03)12466-X.
- Seto, M. C., Kjellgren, C., Priebe, G., Mossige, S., Svedin, C. G., & Langstrom, N. (2010). Sexual coercion experience and sexually coercive behavior: A population study of Swedish and Norwegian male youth. *Child Maltreatment*, 15(3), 219–228. doi:10.1177/1077559510367937.
- Seto, M. C., & Lalumière, M. L. (2010). What is so special about male adolescent sexual offending? A review and test of explanations through meta-analysis. *Psychological Bulletin*, 136(4), 526–575. doi:10.1037/a0019700.
- Short, M. B., Black, L., Smith, A. H., Wetterneck, C. T., & Wells, D. E. (2012). A review of internet pornography use research: Methodology and content from the past 10 years. *Cyberpsychology, Behavior, and Social Networking*, 15(1), 13–23. doi:10.1089/cyber.2010.0477.

- Tangney, J. P., Wagner, P., Fletcher, C., & Gramzow, R. (1992). Shamed into anger? The relation of shame and guilt to anger and self-reported aggression. *Journal of Personality and Social Psychology*, 62(4), 669–675. doi:[10.1037/0022-3514.62.4.669](https://doi.org/10.1037/0022-3514.62.4.669).
- Van der Put, C., Van Vugt, E., Stams, G. J., & Hendriks, J. (2013). Psychosocial and developmental characteristics of female adolescents who have committed sexual offenses. *Sexual Abuse: A Journal of Research and Treatment*, Epub ahead of print. doi:[10.1177/1079063213492342](https://doi.org/10.1177/1079063213492342)
- Weierstall, R., Hinsberger, M., Kaminer, D., Holzhausen, L., Madikane, S., & Elbert, T. (2013). Appetitive aggression and adaption to a violent environment among youth offenders. *Peace and Conflict: Journal of Peace Psychology*, 19(2), 138–149. doi:[10.1037/a0032489](https://doi.org/10.1037/a0032489).
- Weinrott, M. R., & Saylor, M. (1991). Self-report of crimes committed by sex offenders. *Journal of Interpersonal Violence*, 6(3), 286–300. doi:[10.1177/088626091006003002](https://doi.org/10.1177/088626091006003002).
- Widom, C. P., & Ames, M. A. (1994). Criminal consequences of childhood sexual victimization. *Child Abuse and Neglect*, 18(4), 303–318. doi:[10.1016/0145-2134\(94\)90033-7](https://doi.org/10.1016/0145-2134(94)90033-7).
- Willemse, I., Waller, G., Stüss, D., Gennner, S., & Huber, A.-L. (2012). *JAMES—Jugend, Aktivitäten, Medien—Erhebung Schweiz*. Retrieved February 20, 2014, 2014, from www.psychologie.zhaw.ch/JAMES
- Ybarra, M. L., Mitchell, K. J., Hamburger, M., Diener-West, M., & Leaf, P. J. (2011). X-rated material and perpetration of sexually aggressive behavior among children and adolescents: Is there a link? *Aggressive Behavior*, 37(1), 1–18. doi:[10.1002/ab.20367](https://doi.org/10.1002/ab.20367).